REMARKS

Claims 13 to 27 are currently pending in the present application.

35 U.S.C. § 103 Rejection

Claims 13 to 27 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Miller et al., U.S. Patent No. 4,321,040 ("Miller") in view of Zdarsky, U.S. Patent No. 5,516,287 ("Zdarsky"). The Examiner maintains that Miller shows a root canal instrument 10, needle part 13, and a gripping member 12 having a continuous outer surface as shown, which can be gripped by the fingers, and is recoverably deformable. The Examiner further maintains that Miller teaches using the material nylon, which generally does not have coefficient greater than 0.4. The Examiner maintains that Zdarsky teaches using a silicon rubber surface for gripping and for the purpose of providing for high grippability. The Examiner maintains that the silicon rubber used, inherently has a high coefficient of friction and has a coefficient of friction greater than 0.4. The Examiner maintains that it would be obvious to one of ordinary skill in the art to modify Miller to include the use of a gripping material as taught by Zdarsky in order to improve the grippability. The Examiner maintains that he specific range of the coefficient of friction of the material used is an obvious matter of choice in the degree of a known parameter to achieve a predictable result to one of ordinary skill in the art.

The Examiner concedes that Miller does not specifically state the material of the needle, but states that it is well known to make endodontic needles from a metallic material. The Examiner maintains that it would be obvious to one of ordinary skill in the art to use a metallic needle as is well known in the art. The Examiner also concedes that Miller does not disclose the ranges of the Shore hardness of the materials used, however, the Examiner maintains that it would have been obvious to one of ordinary skill in the art at the time of the invention to manufacture the root canal instrument within the specifically claimed ranges of shore hardness, since it has been held that where the

general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Applicant respectfully traverses the above rejection.

Miller teaches an invention unlike the invention of the subject application, which has a continuous and smooth gripping surface. Miller expressly teaches that the handle of his instrument is not continuous, but comprises ribs. Miller discloses beginning on Column 3, Line 50:

> As can best be seen in Fig. 1, axially extending gripping ribs 54 are radially spaced apart from each other and are positioned around the periphery of the central section 18 of the sleeve portion 14. Stiffening and gripping ribs 56 are provided colinearly with the gripping ribs 54 and extend onto the tail end 20. The forward end 17 includes a raised surface 58 which terminates in stiffening and gripping ribs 60, also colinear with gripping ribs 54. It should be noted, however, that the ribs 56 on the tail end 20 and the ribs 60 on the forward end 17 are axially spaced apart from the gripping ribs 54 to thereby provide two cylindrical portions on the central section 18 which are free from any ribs.

The ribs of Miller are not decorative ribs, but serve a function, as the term "gripping rib" indicates. Miller further discloses, beginning on Column 4, line 16:

> Specifically, as shown in Fig. 5, when the instrument is being used, the handle 12 will be gripped at approximately its midsection with the gripping pressure, shown by the arrows 64, being applied onto the gripping ribs 54.

The presence of gripping ribs according to Miller differentiates the reference from the subject invention, which in addition to other novel features has a "continuous outer surface." Applicant has noted already in the description that the gripping end of the subject invention is made "continuous and smooth so that the gripping end has no corners which would be difficult to clean and that pressing it will not produce any point-like or local pressure loads on the fingers."

Zdarsky, as discussed on page 3 of the subject application as filed, requires the use of ribs ("zones 4") too. Thus, contrary to the Examiner's assertions, no combination of Miller and Zdarsky results in a handle with a continuous surface as disclosed in the subject application.

Further, and as already discussed by the Applicant in the subject application as filed, Zdarsky does not teach that the handle ("grip 2") itself is made of silicone rubber. Zdarsky only notes that the ribs ("zones 4") are made of silicone rubber.

The handle of the subject invention has been designed to have a material that has a combination of a sufficiently high coefficient of friction and of appropriate hardness and thickness in an elastomer to enable a user to grasp and use the instrument effectively with minimal fatigue. Applicant has implemented a handle that does not require ribs and instead has a continuous surface. The material has specific criteria such as a specific range for the coefficient of friction. In the instant specification Applicant discloses, and the claims further define, how the material should be arranged on the handle, i.e., such that there is a specific relation between the thickness of the outermost layer vs. the hardness of the material used to realize the feature of recoverable deformation by force applied by the fingers of the operator.

The argument, "discovering the optimum or workable ranges involves only routine skill in the art," as used by the Examiner is applied in an improper context here. The subject invention is not directed to optimizing a single feature within a prior art based teaching, but is instead directed to a novel construction together with a number of interrelated features which all must be simultaneously present for the handle to function according to the principal idea of the invention. The current invention is based on a completely new, i.e., novel, approach for designing root canal instrument handles, which has not been disclosed in the prior art, including Zdarsky.

Further, the continuous nature of the grip of the present invention provides numerous advantages over the prior art. For example, the corners of the ribs, such as

those of both Miller and Zdarsky, formed on the handle-surface are prone to collect microbes. The sharp corners are difficult to clean also. Thus, in addition to the advantageous ergonomic aspects of the invention, the continuous surface of the present invention solves the problem with regard to microbial contamination as well.

In view of the arguments presented above, Applicants respectfully request that the Examiner reconsider and withdraw the rejection under 35 U.S.C. §103.

Should any changes to the claims and/or specification be deemed necessary to place the application in condition for allowance, the Examiner is respectfully requested to contact the undersigned to discuss the same.

Reconsideration and allowance of the claims herein are respectfully requested.

Respectfully submitted,

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